

REMARKS

The enclosed is responsive to the Examiner's Final Office Action mailed on November 29, 2006. At the time the Examiner mailed the Final Office Action claims 1-25 and 27-72, were pending. By way of the present response Applicants have: 1) amended claims 1, 67, and 71; and 2) added no claims; and 3) canceled no claims. As such, claims 1-25 and 27-72 are now pending. Applicants respectfully request reconsideration of the present application and allowance of all claims now presented.

Applicant reserves all rights with respect to the applicability of the doctrine of equivalents.

Claim Rejections under 35 U.S.C. §102(e)

The Examiner has rejected claims 1-25 and 27-70 under 35 U.S.C. §102(e) as being anticipated by Messenger, et al. (USPN 5,051,947, "Messenger"). In light of the amendment, Applicant asserts that the Examiner's rejections has been overcome for at least the following reasons.

Claim 1 relates to a rule processor for conducting contextual searches, comprising: a plurality of M input payload search registers, wherein a data stream of content data to be searched is input into the plurality of payload search registers; a search execution engine comprising: a **search array coupled** to the plurality of **M search registers**, wherein the content data in the plurality of search registers is replicated and stored in the search array, wherein the search array comprises: a plurality of **M rows** of search array elements coupled to a plurality of **M output match lines**; and a plurality of **N columns** of search array elements coupled to a plurality of **N pattern input lines** comprising a **search pattern**; and a

sorter coupled to the search array to perform one or more contextual searches on content in the search array via **parallel pattern matching** in response to executing one or more search instructions specifying the one or more pattern searches and presenting one or more patterns to the content, wherein the **parallel pattern matching** comprises performing a **simultaneous search within all M rows** for the search pattern input by the N pattern input lines **in one clock period**.

In contrast, Messenger fails to disclose or suggest a **search array coupled** to the plurality of **M search registers**, wherein the content data in the plurality of search registers is replicated and stored in the search array, wherein the search array comprises: a plurality of **M rows** of search array elements coupled to a plurality of **M output match lines**; and a plurality of **N columns** of search array elements coupled to a plurality of **N pattern input lines** comprising a **search pattern**; and a sorter coupled to the search array to perform one or more contextual searches on content in the search array via **parallel pattern matching** in response to executing one or more search instructions specifying the one or more pattern searches and presenting one or more patterns to the content, wherein the **parallel pattern matching** comprises performing a **simultaneous search within all M rows** for the search pattern input by the N pattern input lines **in one clock period**. Messenger discloses only a single row of content data loaded into a set of registers, which is then searched for a pattern, the results of which are then output on a single match line, where the matching of only one row is performed in a single clock cycle. This process is illustrated in Figure 3a, row (a). The next operation, requires the shifting of data, another match search, and at least another clock cycle, which is illustrated as row (b). Each row illustrated represents a subsequent set of operations and clock cycles.

Claim 1 relates to processing not just one row in a single clock cycle, but rather M rows, and outputs all the match results on M output lines, all simultaneously. Claim 1 relates to a search array that is M rows of data, for example 2K bytes, and N columns of a pattern, for example 8 bytes, which is all searched in parallel in a single clock cycle. In contrast, Messenger does not search in parallel and does not provide an M by N array, searching by the above example on the order of 2,000 times slower. Further, the Final Rejection identifies col.5, lines 37-56 in Messenger as disclosing “parallel pattern matching”. Applicant disagrees with this assertion, which describes the results data stream paralleling the input data stream, which is not at all related to parallel processing, and in fact teaches away from parallel processing. Messenger describes a one-to-one relationship between input and output, whereas in parallel processing describes many inputs and many outputs on many input and output data streams and lines.

Independent claim 67 is a method claim comprising similar limitations to claim 1 and Applicant asserts that Messenger suffers from similar deficiencies as discussed above.

In view of the above remarks, the dependent claims include additional limitations over the independent claims, and thus, should also overcome the rejection. Therefore, Applicants’ silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 1-25 and 27-70 under 35 U.S.C. § 102(b) as being anticipated by “Messenger”.

Claim Rejections under 35 U.S.C. §103(a)

The Examiner has rejected claims 71-72 under 35 U.S.C. §103(a) as being unpatentable over “Messenger” as applied to claims 1-70 above and in further in view of Herman, et al. (USPN 5,050,075, “Herman”). In light of the amendment and the above remarks, the Examiner’s rejections are asserted to have been overcome and the deficiencies identified in Messenger are also relevant to claim 71. Nonetheless, the following remarks regarding the Examiner’s rejections and the amended claims may be helpful to expedite prosecution.

Herman is introduced to teach “decoding the rule and assembling indirect fields.” However, Herman fails to remedy the deficiencies identified in Messenger and does not disclose or suggest parallel processing of M rows of data, nor an M by N search array, or M output match lines.

In view of the above remarks, the dependent claims include additional limitations which should also overcome the rejection. Therefore, Applicants’ silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 71-72 under 35 U.S.C. § 103(a) as being unpatentable over “Messenger” in view of “Herman”.

CONCLUSION

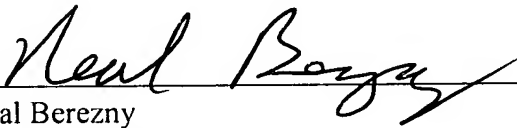
Applicant respectfully submits that the Examiner's rejections have been overcome.

Pursuant to 37 C.F.R. 1.136(a)(3), applicant(s) hereby request and authorize the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 02-2666.

Respectfully submitted,

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Dated: March 29, 2007


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